



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,233	04/14/2004	Frank Jordens	2001P16038WOUS	6342
46726	7590	05/26/2006	EXAMINER	
JOHN T. WINBURN 100 BOSCH BOULEVARD NEW BERN, NC 28562			COOKE, COLLEEN P	
			ART UNIT	PAPER NUMBER
			1754	

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/824,233	JORDENS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Colleen P. Cooke	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 13-17, 19-25, 27-30 and 32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-17, 19-25, 27-30 and 32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13, 6, 19, 37-30, and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "substantially in the range of", "substantially permanently", "substantially 500°C" or "substantially about" in claims 16, 18, 19, 27-30, and 32 are relative terms which render the claim indefinite. These terms are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claims 13, 21, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims contain improper Markush group language which makes the scope of the claims indefinite and unclear.

Each of claims 21 and 22 are formatted so as to effectively require at least one of A, B, C, D including at least one of a, b, c, d. This claim format is unclear because it does not clarify what is actually required by the claim. Is the claim requiring at least one of A, B, C, D, AND additionally including at least one of a, b, c, d OR is the claim requiring at least one of A, B, C, D, wherein D includes at least one of a, b, c, d OR is the claim requiring at least one of A, B, C, D, wherein that at least one of A, B, C, D includes at least one of a, b, c, d itself? For example,

Art Unit: 1754

with respect to claim 21, is the claim satisfied by any nanoscale particle, a nanoscale particle including a transition metal, a metal that is not a transition metal, etc.? The applicant is advised to carefully review and revise the claim language, paying particular attention to the placement and use of “and”, “or”, “including” and punctuation.

Similarly but with different specific language, claim 13 is formatted in such a way that it is unclear what is actually required to satisfy the claim. The claim as written requires an inorganic colloidal solution formed with at least one of A, B, C, D, E, F, G and mixtures of at least two of a or b, c, d, and e or f. Does a silicone formed of A alone meet the claim or must A also include a mixture? If so is that mixture met by a, c, d, and e or a and d? The applicant is advised to carefully review and revise the claim language, paying particular attention to the placement and use of “and”, “or”, “including” and punctuation.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-17, 23-25, and 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Chay (3888790).

Chay teaches a porous ceramic catalytic coating for use in self-cleaning ovens and pollution control devices (Column 1, lines 10-12) wherein the coating includes a silicate binder

Art Unit: 1754

(Column 3, lines 37-44) and also includes porous particles of a refractory material which may be metal oxides of Si, Al, Ti, or Zr (Column 3, lines 4-12) and which porosity includes open-cell pores. Chay teaches the metal oxides (refractory) particles are a "fine powder" (Column 3, line 29) and further that the oxides particles be less than 74  $\mu\text{m}$  (Column 5, lines 24-23).

It is noted that claims 13, 16, and 28-30 use the terms "substantially in the range of", "substantially permanently", "substantially 500°C" or "substantially about" which are indefinite as described above. The teachings of Chay appear to meet the claimed ranges given the degree of indefiniteness expressed and not defined. Further, with particular respect to claim 13, as the binder taught by Chay is a silicate it would inherently be "substantially permanently temperature resistant up to substantially 500°C" as claimed.

Regarding claim 31 specifically, Chay teaches the structure claimed which would therefore inherently possess the claimed properties of being "sufficient" to spread and absorb remnants of foodstuff, to function as oxygen reservoirs. Furthermore, with regard to this last limitation of functioning as an oxygen reservoir, this limitation of claim 31, from lines 11-19 appears to cite an intended use that:

the pores function as oxygen reservoirs whereby decomposition does not exclusively depend on oxygen supply from the surface and sides of the structure and wherein a sealing of the surface of the coating by large amounts of foodstuffs does not lead to a blocking of composition within the entire layer.

A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case Chay teaches the structure claimed and therefore meets these limitations.

Art Unit: 1754

Claims 13-15, 17, 20-25, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Stiles (3993597).

Stiles teaches a catalytic composition for coating the surfaces of cooking devices (Column 1, lines 13-15) wherein the coating includes a silicate binder (Column 4, lines 52-58) and porous metal oxide particles which may be a refractory material such as oxides of Al, Ti, B, Si and specifically teaches TiO<sub>2</sub>, ZrO<sub>2</sub> and SiO<sub>2</sub> (Column 5, lines 30-40 and 45-49) which have open porosity. Stiles additionally teaches that other oxides may be added for pigment (Columns 5-6, lines 64-4).

It is noted that claims 18 and 28-30 use the terms “substantially permanently”, “substantially 500°C” or “substantially about” which are indefinite as described above. The teachings of Stiles appear to meet the claimed ranges given the degree of indefiniteness expressed and not defined. Further, with particular respect to claim 18, as the binder taught by Chay is a silicate it would inherently be “substantially permanently temperature resistant up to substantially 500°C” as claimed.

Regarding claim 31 specifically, Stiles teaches the structure claimed which would therefore inherently possess the claimed properties of being “sufficient” to spread and absorb remnants of foodstuff, to function as oxygen reservoirs. Furthermore, with regard to this last limitation of functioning as an oxygen reservoir, this limitation of claim 31, from lines 11-19 appears to cite an intended use that:

the pores function as oxygen reservoirs whereby decomposition does not exclusively depend on oxygen supply from the surface and sides of the structure and wherein a sealing of the surface of the coating by large amounts of foodstuffs does not lead to a blocking of composition within the entire layer.

Art Unit: 1754

A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case Stiles teaches the structure claimed and therefore meets these limitations.

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 19 and 27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chay (3888790) as described with respect to claim 13 above.

Chay teaches that the binder can be formulated from commercially available frits (Column 5, lines 3-7) and that upon mixing with the other coating components such be

Art Unit: 1754

ballmilled since the frit must be reduced to a fine powder of less than 74 $\mu$ m (Column 6, lines 50-55).

It is noted that claims 19 and 27 use the terms "substantially in the range of" or "substantially about" which are indefinite as described above. The teachings of Chay appear to meet the claimed ranges given the degree of indefiniteness expressed and not defined.

Claims 16, 19, and 27-30 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Stiles (3993597) as described with respect to claim 13 above.

Stiles teaches in several examples that the particle sizes for the various components are: less than 35  $\mu$ m (Column 9, line 28; Column 11, lines 11), less than 25  $\mu$ m (Column 11, line 18), and in the range of 2-15  $\mu$ m (Column 11, lines 47-48). If this does not anticipate the claimed ranges for each specific component, it would be obvious for the components to have these sizes because to provide a more even coating and the desired porosity.

It is noted that claims 16, 19, and 27-30 use the terms "substantially in the range of", "substantially permanently", "substantially 500°C" or "substantially about" which are indefinite as described above. The teachings of Stiles appear to meet the claimed ranges given the degree of indefiniteness expressed and not defined.



Art Unit: 1754

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colleen P. Cooke whose telephone number is 571-272-1170. She can normally be reached Mon.-Fri. 9:00 am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, her supervisor, Stan Silverman can be reached at 571-272-1358. The official fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Colleen P Cooke  
Primary Examiner  
Art Unit 1754